

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 1999		
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603860F Joint Precision Approach and Landing Systems - Dem/Val				PROJECT 4652		
COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
4652 Precision Landing Systems	0	21,456	16,488	18,253	9,799	13,307	10,261	9,566	TBD	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**
 The objective of the Joint Precision Approach and Landing System (JPALS) is to provide the next generation precision approach and landing system capability that will contribute to a joint operational capability for the United States (US) forces in order to perform assigned conventional and special operational missions from fixed base, tactical, shipboard and special mission environments under a wide range of meteorological conditions. Additionally, JPALS will ensure that DoD maintains civil interoperability with current and projected FAA and NATO member country landing systems. This effort will modernize the DoD precision landing architecture by replacing aging ship-board and ground precision landing systems (Instrument Landing System (ILS), Precision Approach Radar (PAR), and Instrument Carrier Landing Systems (ICLS) which are expected to end their useful life by 2005-2010 and address short-term precision landing deficiencies in the near term. JPALS will be rapidly deployable and have the ability to operate in adverse weather conditions whether by day or night. JPALS will facilitate DoD mission and training needs by enabling US forces to land on any surface worldwide (land and sea) under peacetime and hostile conditions. This effort may result in modification to avionics in over 6,000 Air Force aircraft and may include a ground segment. No existing system satisfies the mission need for worldwide deployment and interoperability between the Services and the Civil Reserve Air Fleet (CRAF).

(U) **B. Budget Activity Justification**
 This program is in budget activity 4 - Demonstration and Validation, Research Category 6.4B because supportability and manufacturing process design considerations must be identified and integrated into the precision landing architecture.

(U) FY 1999 (\$ in Thousands):

- (U) \$ 2,999 Begin Architecture and Requirements Definition (ARD) activities
- (U) \$ 1,900 Begin aircraft risk reduction studies and integration analyses
- (U) \$ 5,061 Begin shipboard risk reduction studies and integration analyses
- (U) \$10,793 Begin development of Local Area Differential Global Positioning System (LDGPS) prototypes
- (U) \$ 703 Identified as a source for SBIR
- (U) \$21,456 Total

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<p>(U) <u>FY 2000 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> - (U) \$ 860 Complete Architecture Definitions - (U) \$ 1,779 Continue aircraft risk reduction studies and integration analyses - (U) \$ 1,225 Complete shipboard risk reduction studies and integration analyses - (U) \$ 4,034 Continue development of Local Area Differential Global Positioning System prototypes - (U) \$ 8,590 Begin Aircraft Avionic Development - (U) \$16,488 Total <p>(U) <u>FY 2001 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> - (U) \$ 2,088 Continue aircraft risk reduction studies and integration analyses - (U) \$ 5,805 Continue development of Local Area Differential Global Positioning System prototypes - (U) \$ 10,360 Continue Aircraft Avionic Development - (U) \$ 18,253 Total 		
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BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT
4 - Demonstration and Validation		0603860F Joint Precision Approach and Landing Systems - Dem/Val			4652
(U) C. <u>Program Change Summary (\$ in Thousands)</u>					
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Total <u>Cost</u>
(U) Previous President's Budget (FY 1999 PB)	0	22,057	16,789	0	TBD
(U) Appropriated Value		22,057			
(U) Adjustments to Appropriated Value					
a. Cong Reductions		-601			
b. SBIR					
c. Omnibus or Other Above Threshold Reprogram					
d. Below Threshold Reprogramming					
e. Recissions					
f. Other					
(U) Adjustments to Budget Years Since FY 1999 PB			-301	18,253	TBD
(U) Current Budget Submit FY2000 PB	0	21,456	16,488	18,253	TBD
(U) Significant Program Changes: Program Element is new in FY99—previous efforts were funded under PE 35114F.					
FY99: Identified as a source for SBIR (\$703,000)					
FY01: \$10,800 of FY01 funding added to support aircraft and shipboard integration studies, ansurie joint service interoperability and continue development of avionic and local differential-GPS systems.					
(U) D. <u>Other Program Funding Summary (\$ in Thousands): Not applicable</u>					
(U) E. <u>Acquisition Strategy</u> : Demonstration and Validation, multiple contracts, Fixed Price Incentive Fee (FPIF), Firm Fixed Priced contracts (FFP); no Non-Developmental Items (NDI)					

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(U) F. <u>Schedule Profile</u>																
		<u>FY 1998</u>				<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(U) Acquisition Milestones:																
(U) Milestone 0 (3d Qtr, FY96)																
(U) Architecture and Requirements Definition Phase																
			*													
(U) Definition studies																
					X				X							
(U) Integration Analyses																
					X				X							
(U) Prototype/Avionic Development Contracts																
						X				X				X		
Milestone 0 was funded under PE35114F																
* Architecture and requirements Definition Phase authorized by USD(A&T) by memorandum on 18 Sep 1998																
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 1999			
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603860F Joint Precision Approach and Landing Systems - Dem/Val					PROJECT 4652	
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>											
					<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U)	Prototype Development				0	10,793	12,624	16,165			
(U)	Integration Studies and Analyses				0	6,960	2,024	1,868			
(U)	Systems Engineering/Technical Support				0	2,632	1,600				
(U)	Program Management Support				0	293	160	140			
(U)	Travel				0	75	80	80			
(U)	Identified as source for SBIR					703					
(U)	Total					21,456	16,488	18,253			
(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
Performing Organizations:											
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1998</u>	Budget <u>FY 1998</u>	Budget <u>FY 1999</u>	Budget <u>FY 2000</u>	Budget <u>FY 2001</u>	Budget to Complete	Total Program
Identified as a source for SBIR							703				
<u>Product Development Organizations:</u>											
TBD	Various	Various	TBD	TBD	0	0	17,753	14,648	16,165	TBD	TBD
<u>Support and Management Organizations</u>											
TBD	Various	Various	TBD	TBD	0	0	3,000	1,840	2,088	TBD	TBD
No contracts more than \$1.0M											
<u>Test and Evaluation Organizations</u>											
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									February 1999		
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT		
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Contractor or Government Performing Activity TBD	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC TBD	Project Office EAC TBD	Total Prior to FY 1998 0	Budget FY 1998 0	Budget FY 1999 0	Budget FY 2000 0	Budget FY 2001 0	Budget to Complete TBD	Total Program TBD
Government Furnished Property: N/A											
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY 1998	Budget FY 1998	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
<u>Product Development Property</u> N/A											
<u>Support and Management Property</u> N/A											
<u>Test and Evaluation Property</u> N/A											
Identified as a source for SBIR							703				
Subtotal Product Development							17,753	14,648	16,165	TBD	TBD
Subtotal Support and Management							3,000	1,840	2,088	TBD	TBD
Subtotal Test and Evaluation							0	0	0	TBD	TBD
Total Project							21,456	16,488	18,253	TBD	TBD